

FIG. 1C

MATCH WITH FIG. 1B

TTTACAGACAAGTTCATTCCATTATTAGACGTTCCCTGCCAGCAACACTACCACAGTGTC
661

AAATGCTCTGTTCAAGTAAGGTAATAATCTGCAAGGACGGTCGTTGTGATGTTGTACACAG
Y R Q V H S I I R R S L P A T L P Q C Q -

C

AGGCAGCGAACAAGACCTGCCCCACCAATTACATGTGGAAATAATCACAATCTGCAGATGCC
720

TCCGTCGCTTGTCTGGACGGGGTGGTAAATGTACACCTTATTAGTAGACGCTCTACGG
A A N K T C P T N Y M W N N H I C R C L -

C

TGGCTCAGGAAGATTTTATGTTTTCCTCGGATGCTGGAGATGACTCAACAGATGGATCC
781

ACCGAGTCCTTCTAAATAACAAGGAGCCTACGACCTCTACTGAGTTGTCTACCTAAGG
A Q E D F M F S S D A G D S T D G F H -

C

ATGACATCTGTGGACCAACAAGAGCTGGATGAAGAGACCTGTCACTGTCTGCAGAG
841

TACTGTAGACACCTGGTTTGTTCCTCGACCTACTTCTCTGGACAGTCACACAGACGCTCTC
D I C G P N K E L D E E T C Q C V C R A -

C

CGGGCTTCGGCCTGCCAGCTGTGGACCCCAAGAAGACTAGACAGAACTCATGCCAGT
901

GCCCCGAGCCGACGGTCGACACCTGGGGTGTTCCTTGATCTGTCTTGAGTACGGTCA
G L R P A S C G P H K E L D R N S C Q C -

C

GTGTCTGTAAAAACAACACTCTTCCCCAGCCAATGTGGGGCCCAACCGAGAATTGATGAAA
961

CACAGACATTTTGTGTTGAGAAGGGTCGGTACACCCCGGTGGCTCTTAAACTACTTT
MATCH WITH FIG. 1D


```

1  CGAGGCCACGGCTTATGCAAGCAAAGATCTGGAGGAGCAGTTACGGTCTGTGTCAGTGT
-----+-----+-----+-----+-----+-----+-----+-----+
71  AGATGAACATCATGACTGTACTCTACCCAGAAATATTGGAAAATGTACAAGTGTACGCTAAG
-----+-----+-----+-----+-----+-----+-----+-----+
      M T V L Y P E Y W K M Y K C Q L R
121  GAAAGAGGCTGGCAACATAACAGAGAACAGGCCAACCTCAACTCAAGCACAGAGAGAC
-----+-----+-----+-----+-----+-----+-----+-----+
      K G G W Q H N R E Q A N L N S R T E E T
181  TATAAAATTGCTGCAGCACATTATAATACAGAGATCTTGAAAAGTATTGATAATGAGTC
-----+-----+-----+-----+-----+-----+-----+-----+
      I K F A A A H Y N T E I L K S I D N E W
241  GAGAAAGACTCAATGCATGCCACGGAGGTGTGTATAGATGTGGGGAAGGAGTTTGGAGT
-----+-----+-----+-----+-----+-----+-----+-----+
      R K T Q C M P R E V C I D V G K E F G V
301  CGCGACAAACACCTTCTTTAAACCTCCATGTGTGTCCTCGTCTACAGATGTGGGGTGTGCTG
-----+-----+-----+-----+-----+-----+-----+-----+
      A T N T F F K P P C V S V Y R C G G C C

```

FIG. 2A

361 CAATAGTGGGGCTGCAGTGCATGAACACACGACGAGCTACCTCAGCAAGACGTTATT
-----+-----+-----+-----+-----+-----+-----+
N S E G L Q C M N T S T S Y L S K T L F

421 TGAAATTACAGTGCCTCTCTCTCAAGCCCCAAACCAGTAACAATCAGTTTGGCCAATCA
-----+-----+-----+-----+-----+-----+-----+
E I T V P L S Q G P K P V T I S F A N H

481 CACTTCCTGCCGATGCATGTCTAAACTGGATGTTACAGACAAGTTCATTCCATTATTAG
-----+-----+-----+-----+-----+-----+-----+
T S C R C M S K L D V Y R Q V H S I I R

541 ACGTTCCCTGCCAGCAACACTACCACAGTGTGAGCGCAGCAACAAGACCTGCCCCACCAA
-----+-----+-----+-----+-----+-----+-----+
R S L P A T L P Q C Q A A N K T C P T N

601 TTACATGTGGAATAATCACATCTGCAGATGCCCTGGCTCAGGAAGATTTATGTTTTCCTC
-----+-----+-----+-----+-----+-----+-----+
Y M W N N H I C R C L A Q E D F M F S S

661 GGATGCTGGAGATGACTCAACAGATGGATTCCATGACATCTGTGACCAACAAGAGCT
-----+-----+-----+-----+-----+-----+-----+
D A G D D S T D G F H D I C G P N K E L

FIG.2B

```

721  GGATGAAGAGACCTGTAGTGTCTGCAGAGCGGGCTTCGGCCTGCCAGCTGTGGACC
      -----+-----+-----+-----+-----+-----+-----+
      D E E T C Q C V C R A G L R P A S C G P

781  CCACAAAGAACTAGACAGAACTCATGCCAGTGTCTGTGTAATAACAACTCTTCCCCAG
      -----+-----+-----+-----+-----+-----+-----+
      H K E L D R N S C Q C V C K N K L F P S

841  CCAATGTGGGCCCAACCGAGAATTGATGAATAACACATGCCAGTGTGTATGTAAAGAAG
      -----+-----+-----+-----+-----+-----+-----+
      Q C G A N R E F D E N T C Q C V C K R T

901  CTGCCCCAGAAATCAACCCCTAAATCCTGGAAATGTGCCTGTGAATGTACAGAAAGTCC
      -----+-----+-----+-----+-----+-----+-----+
      C P R N Q P L N P G K C A C E C T E S P

961  ACAGAAATGCTTGTAAAGGAAGAAGTTCACCAACCAACATGCAGCTGTACAGACG
      -----+-----+-----+-----+-----+-----+-----+
      Q K C L L K G K K F H H Q T C S C Y R R

1021 GCCATGTACGAACCGCAGAGGCTGTGAGCCAGGATTTTCATATAGTGAAGAAGTGTG
      -----+-----+-----+-----+-----+-----+-----+
      P C T N R Q K A C E P G F S Y S E E V C

```

FIG. 2C

1081	TCGTTGTGCCCTTCATATTGGCAAGACCACAAATGAGCTAAGATTGTA	CTTTTCCA
	R C V P S Y W Q R P Q M S	
1141	GTTCAATCGAATTTTCTATTATGGAAAAC	TGTGTGCCACAGTAGAAC
		TGCTGTGAACAGA
1201	GAGACCTTGTGGTCCATGCTAACAAAGACAA	AAAGTCTGTCTTTCCCTGAACCATGTGGA
1261	TAACTTTACAGAAATGGACTGGAGCTCATCTGCA	AAAGGCCCTCTTGTAAGACTGGTTTT
1321	CTGCCAATGACCAACACAGCCAAGATTTTCCTCT	TGTGATTTCTTTAAAGAAATGACTATA
1381	TAAATTTATTTCCACTAAAAATATGTTTCTGCA	TTTCATTTTATAGCAACACAAATTGGT
1441	AAAACTCACTGTGATCAATAATTTTATATCATGCA	AAATATGTTTAAATAAATGAAAA
1501	TTGTATTATATAAAAAA	AAAAAA

FIG.2D

50

1

pdgfa .MRTLACLL LGCGYLAHVL AEEAEIPREV IERLARSQIH SIRDQLRLLE
 pdgfb MNRCWA.LFL SLCCYLRLVS AEGDPIPEEL YEMLSHSIR SFDDLQRLIH
 VegfMNFLL SWVHWSLALL LY.....
 Vegf2MTV LYPEYWKMYK CQ.....

100

51

pdgfa IDSVGSEDSL DTSLRAHGVH ATKHVPEKRP LPIRRKRSL.EEAVP
 pdgfb GDP.GEEDGA ELDLNMTRSH SGGELES... .LARGRRSLG SLTIAEPAMI
 Vegf APMAE.....GGGQ NHHEVVKFMD .VYQR.....
 Vegf2 REQANLNSRT EETIKFAAAH YNTEILKSID NEWRK.....

150

101

pdgfa AVCKTRTVIY EIPRSQVDPT SANFLIWPPC VEVKRCCTGCC NTSSVKCQPS
 pdgfb AECKTRTEVF EISRRLLIDRT NANFLVWPPC VEVQRCSGCC NNRNVQCRPT
 Vegf SYCHPIETLV DIFQEYFDEI ..EYIFKPS VFLMRCGGCC NDEGLECVPT
 Vegf2 TQCMPREVCI DVGKEFGVAT ..NTEFFKPPC VSVYRCGGCC NSEGLQCMNT

200

151

pdgfa RVHHRSVKVA KVEYVRKKPK LKEVQVRLEE HLECAC.... AT.....
 pdgfb QVQLRPVQVR KIEIVRKKPI FKKATVTLED HLACKC.... ETVAARPV
 Vegf EESNITMQIM RIK.PH..QG QHIGEMSEFLQ HNKCECRPKK DRARQEKKS
 Vegf2 STSYLSKTLF EIT.VPLSQG PKPVTISFAN HTSCRCMSKL DVYRQVHSII

FIG. 3A

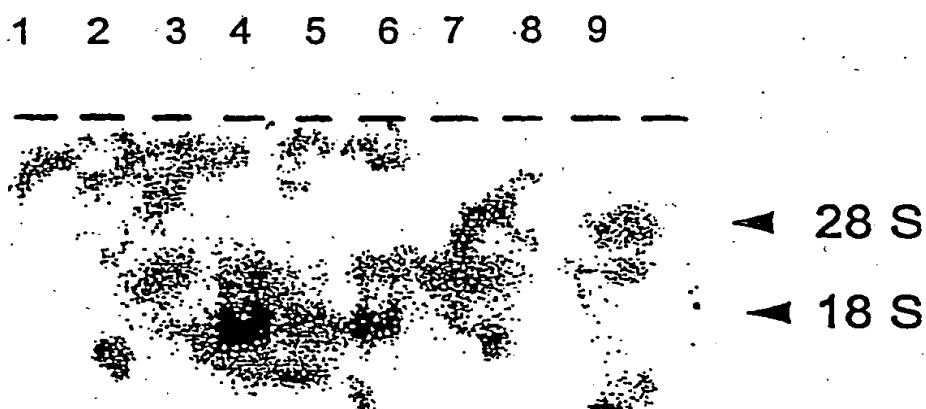
201		250
Pdgfa	....TSLNPD YREEDTDVR.	.....
Pdgfb	RSPGGSQEQR AKTPQTRVTI RTVRVRRPPK GKHRKFKKTH DKTALKETLG	
Vegf	RGK.....GKGQKRKRK KSRYSWSVY VGARCCCLMPW SLPGRPHP...	
Vegf2	RRSLPATLPQ CQAANKTCPT NYMNNNHICR CLAQEDFMFS SDAGDDSTDG	
251		300
Pdgfa	.....	.....
Pdgfb	A.....	.....
Vegf	....CGP.....CSE RRKHLFVQDF QTCKCSCKNT	
Vegf2	FHDICGPNKE LDEETCQCVC RAGLRPASCG PHKEL...DR NSCQCVCCKNK	
301		350
Pdgfa	.....	.....
Pdgfb	.....	.....
Vegf	..DSRCKARQ LELNERTCRC DKPRR.....	
Vegf2	LFPSQCGANR .EFDENTCQC VCKRTCPRNQ PLNPGKCACE CTESPOKCLL	
351		398
Pdgfa	.....	.....
Pdgfb	.....	.....
Vegf	.....	.....
Vegf2	KGKKFHHQTC SCYRRPCTNR QKACEPGFSY SEEVCRCPVS YWQRPQMS	

FIG.3B

PERCENTAGE (%) OF AMINO ACID IDENTITIES BETWEEN EACH PAIR OF GENES IS SHOWN IN THE FOLLOWING TABLE				
	PDGF α	PDGF β	VEGF	VEGF2
PDGF α				
PDGF β	48.0			
VEGF	20.7	22.7		
VEGF2	23.5	22.4	30.0	

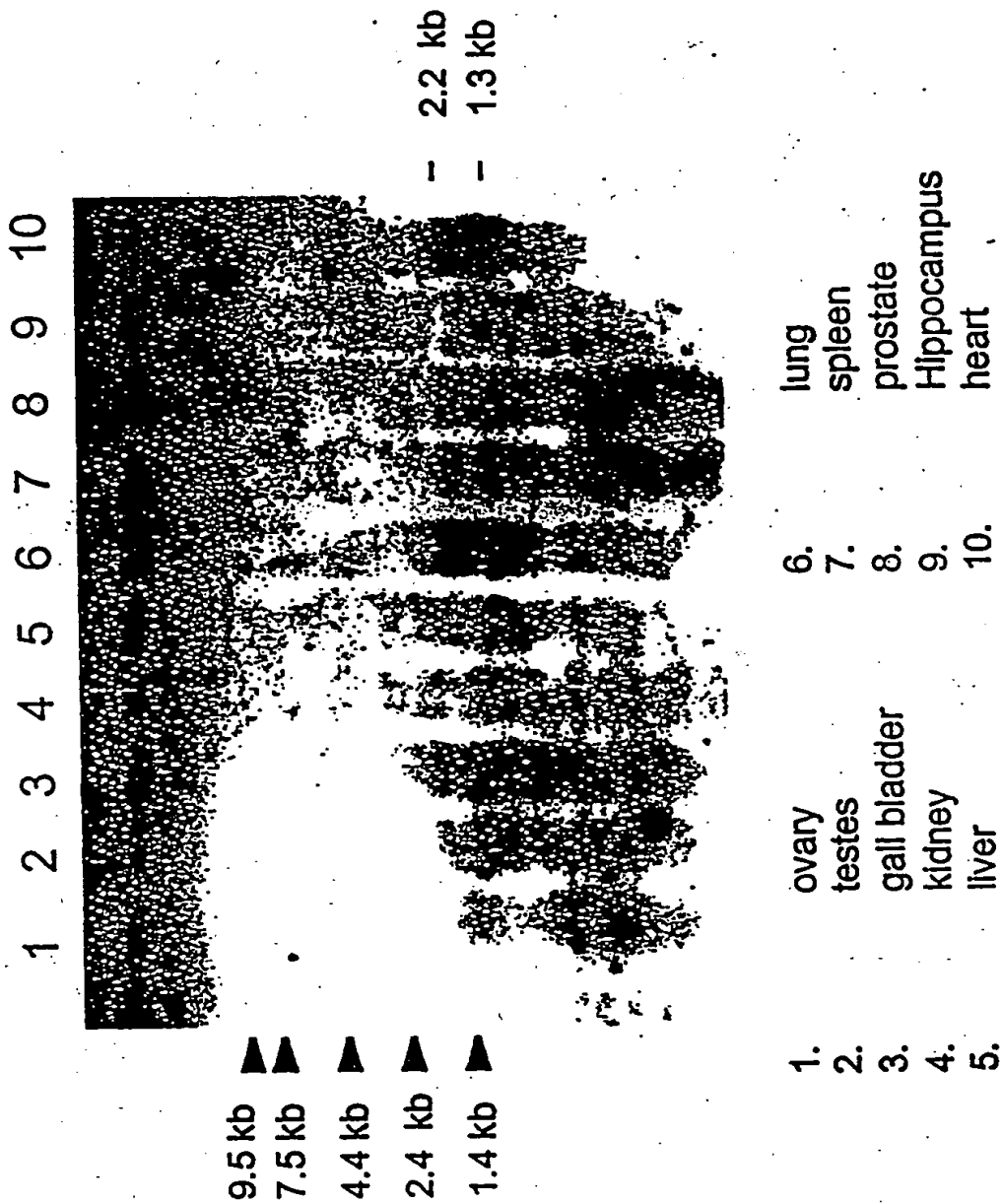
FIG.4

Expression of VEGF2 mRNA in
Human Breast Tumor Cells



1. normal breast tissue
2. breast tumor tissue
- 3-9. breast tumor cell lines.

FIG. 5

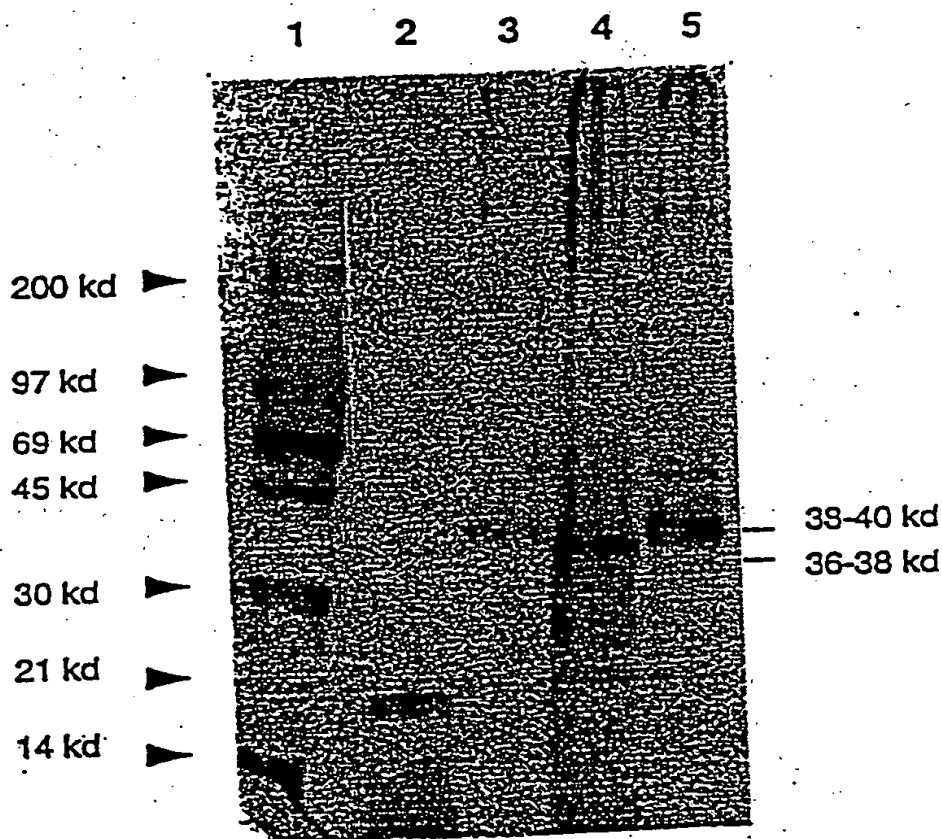


Expression of VEGF2 mRNA in human adult tissues.

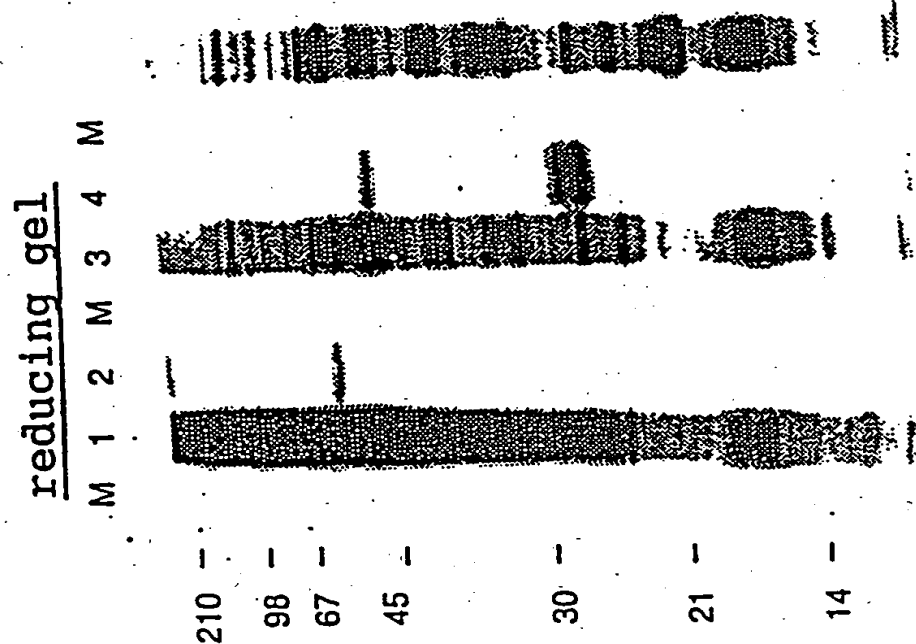
FIG. 6

BEST AVAILABLE COPY

FIG. 7

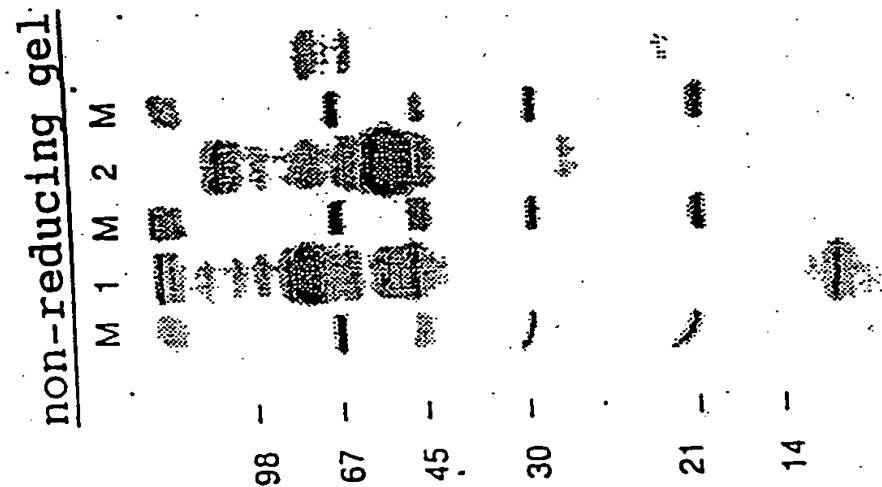


- Lane 1: 14-C and rainbow M.W. marker
 Lane 2: FGF control
 Lane 3: VEGF2 (M13-reverse & forward primers)
 Lane 4: VEGF2 (M13-reverse & VEGF-F4 primers)
 Lane 5: VEGF2 (M13-reverse & VEGF-F5 primers)



Marker
Lane M:
Lane 1: vector cytoplasm
Lane 2: vector medium
Lane 3: VEGF2 cytoplasm
Lane 4: VEGF2 medium

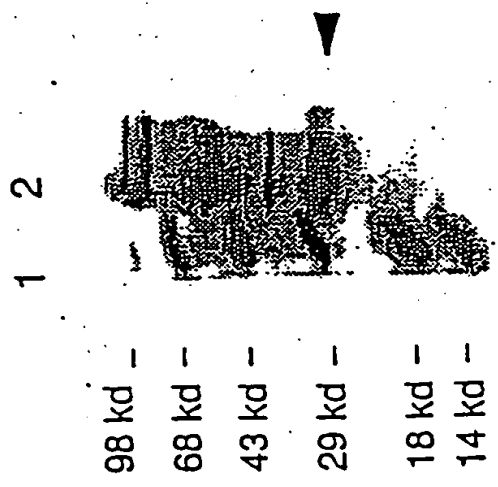
FIG. 8B



Marker
Lane M:
Lane 1: vector medium
Lane 2: VEGF2 medium

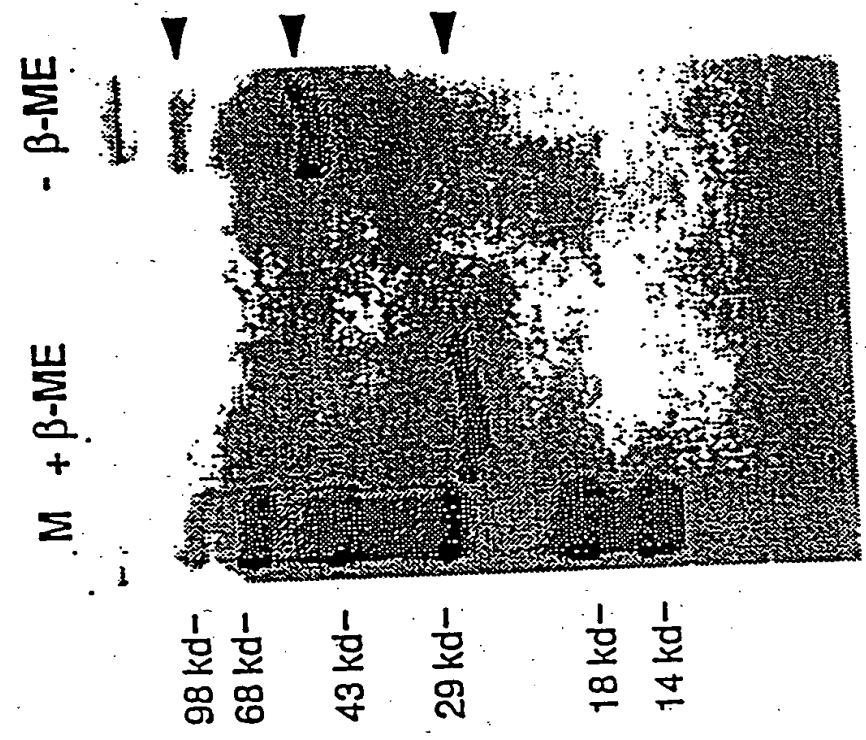
FIG. 8A

FIG. 9



Lane 1: Molecular weight marker
Lane 2: Precipitates containing VEGF2.

FIG. 10



BEST AVAILABLE COPY

FIG. 11

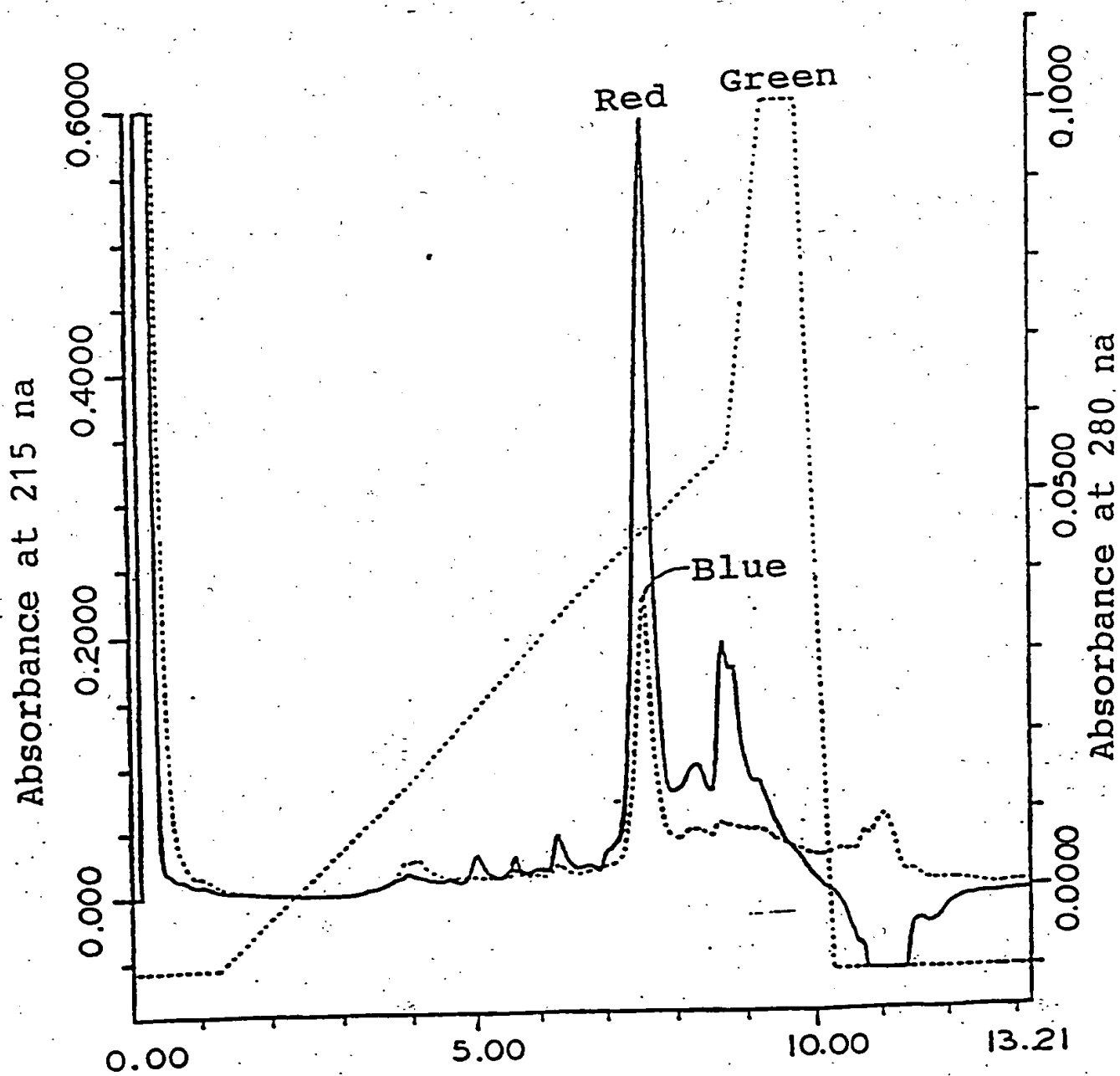


FIG. 12

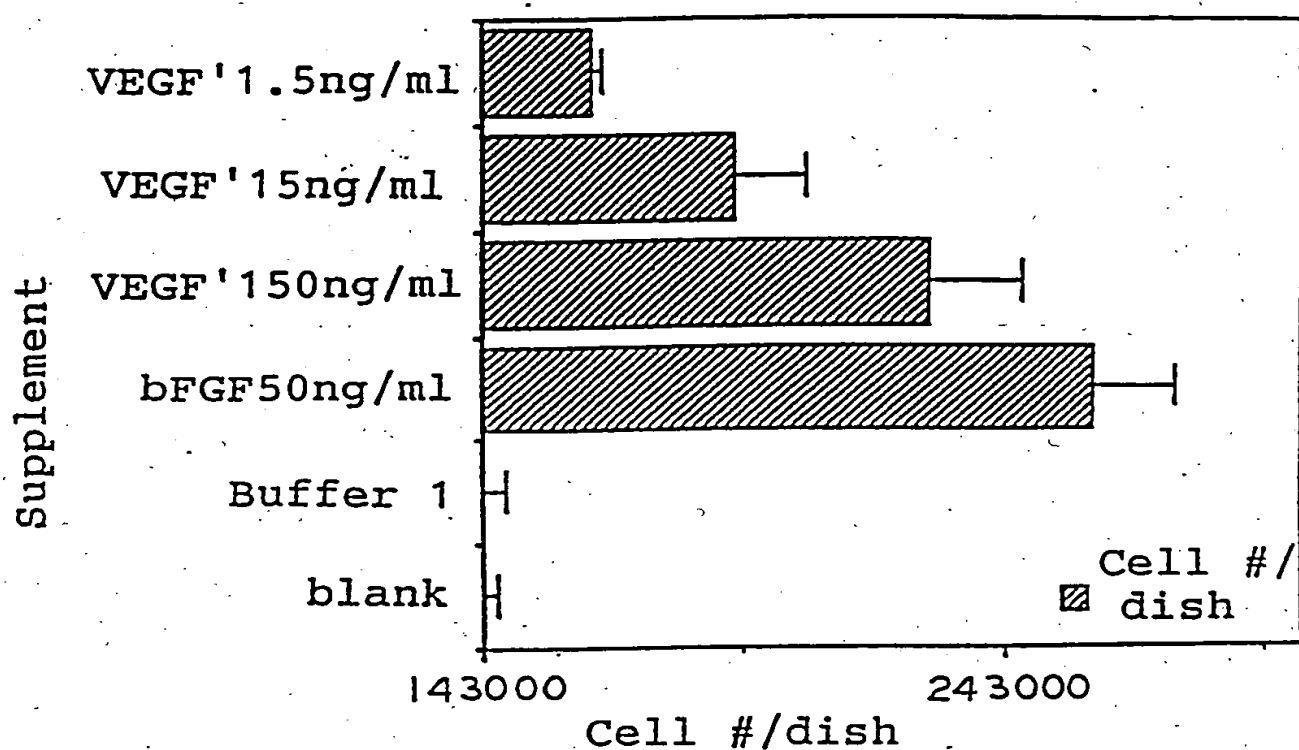
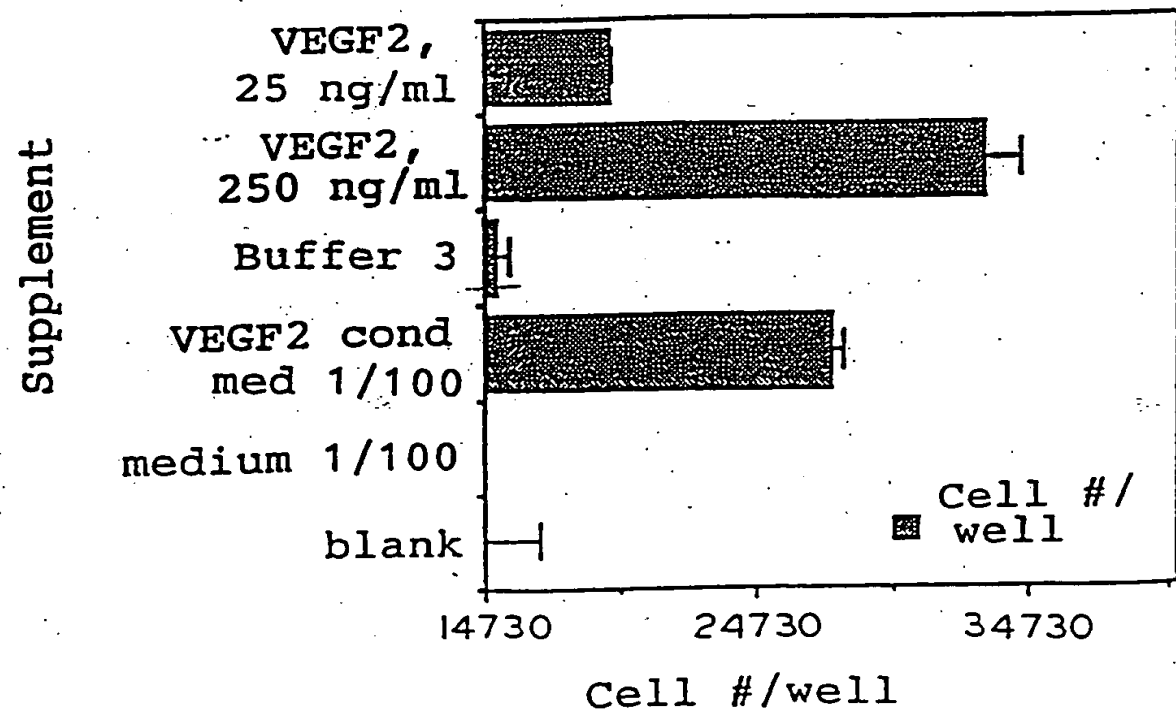


FIG. 13



0935726.082401

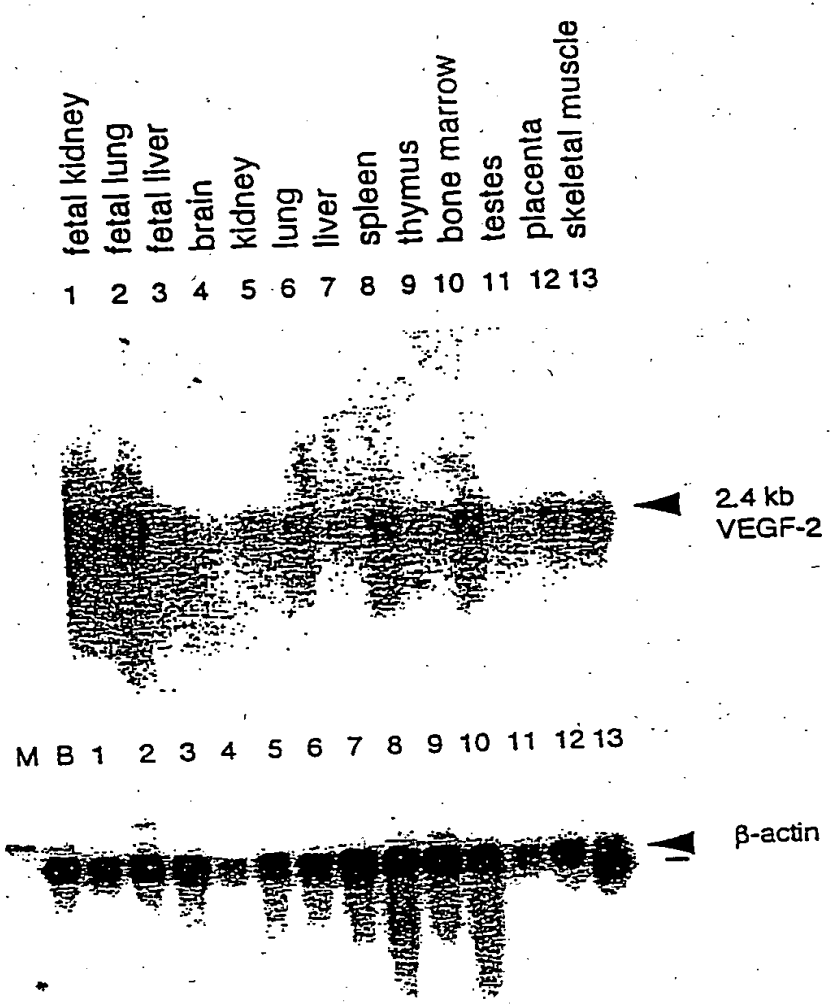
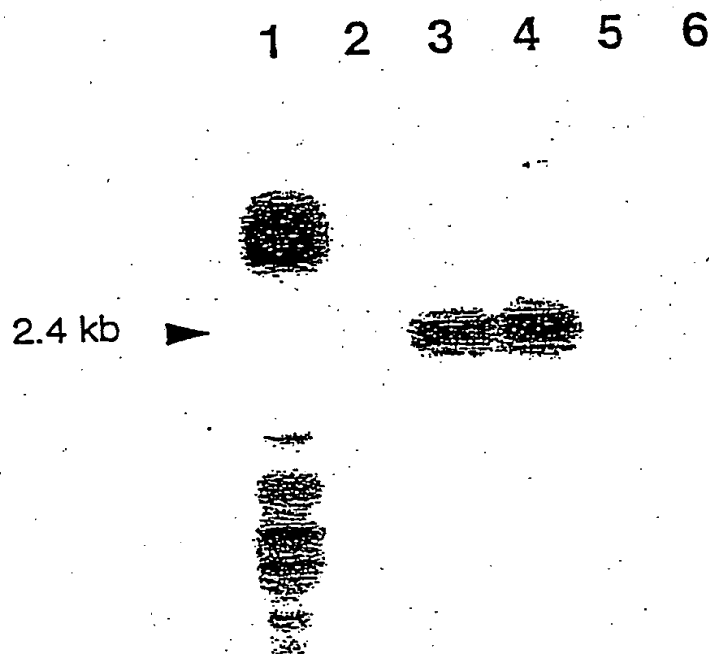


Figure 14

09935726.082401



1. Molecular Weight Marker
2. umbelical vein endothelial cells
3. aortic smooth muscle cells
4. Dermal fibroblast

Figure 15

09935726-082401

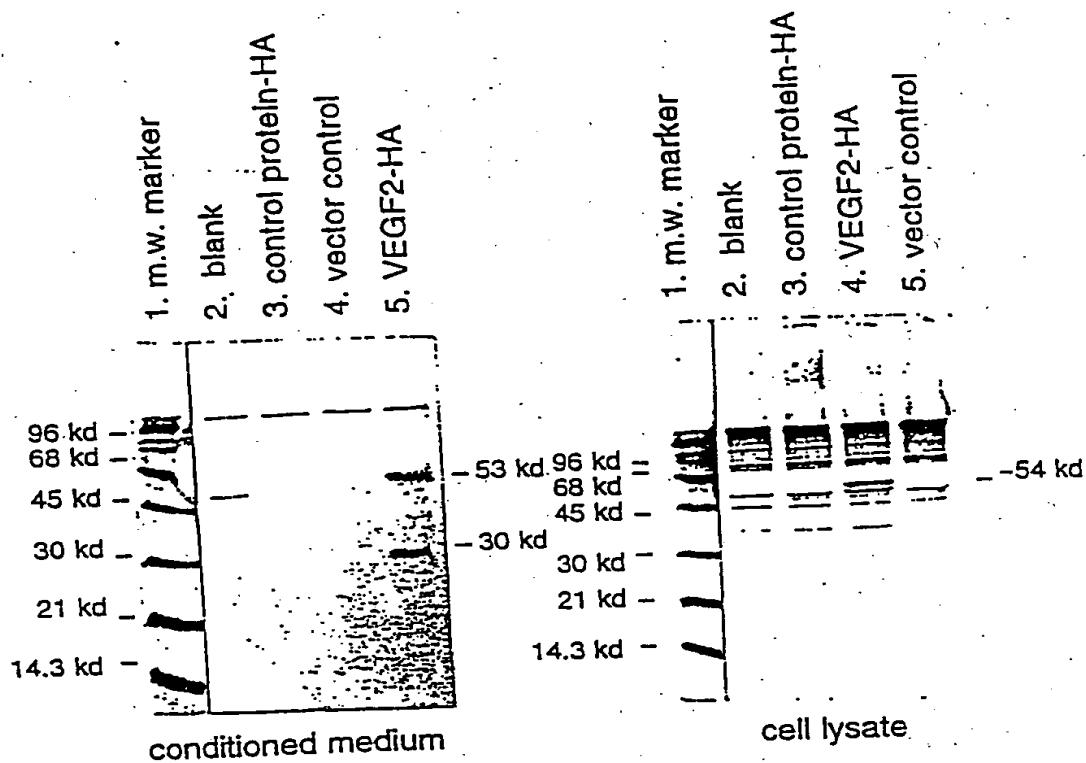


Figure 16

09935726.08401
104280" 9275E660

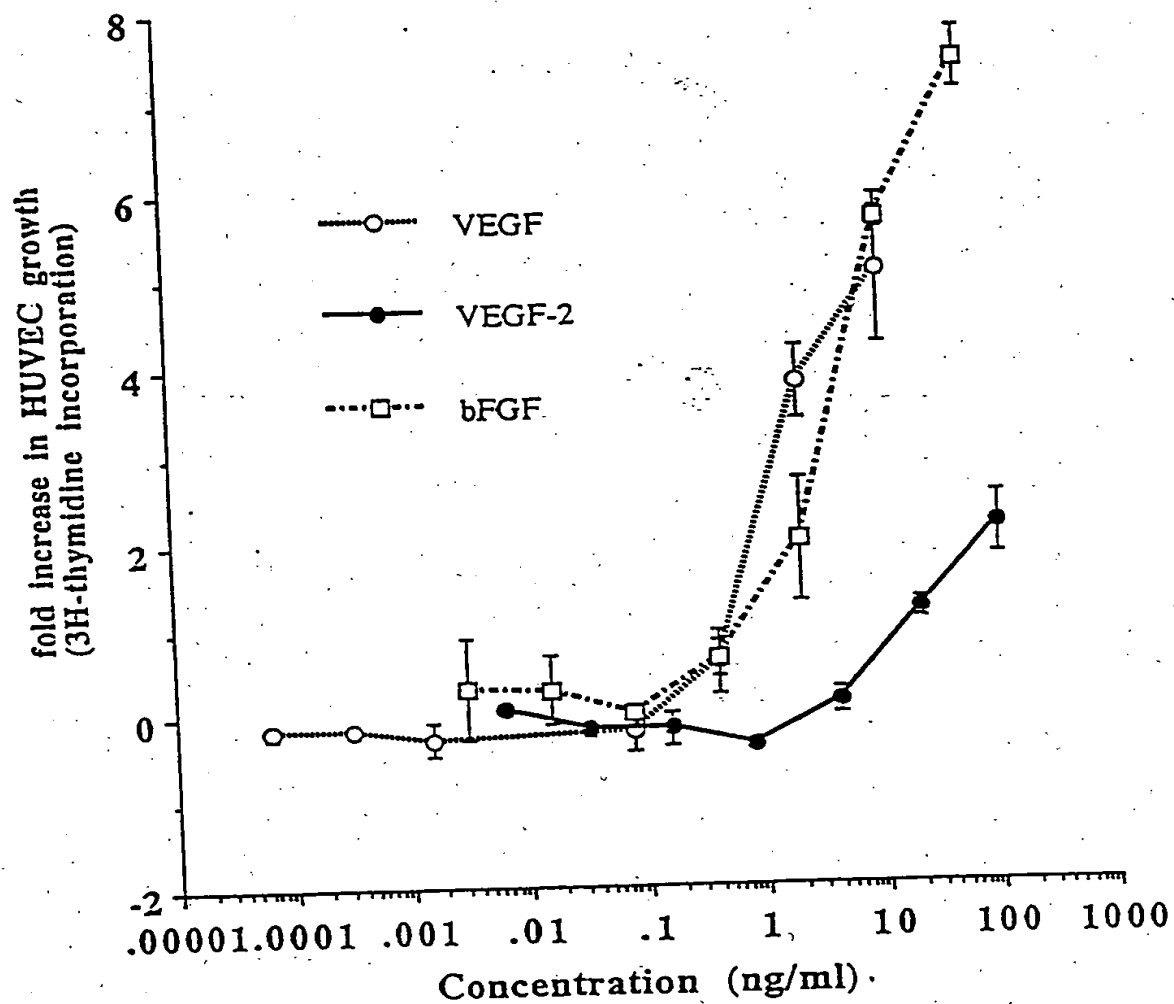


Figure 17

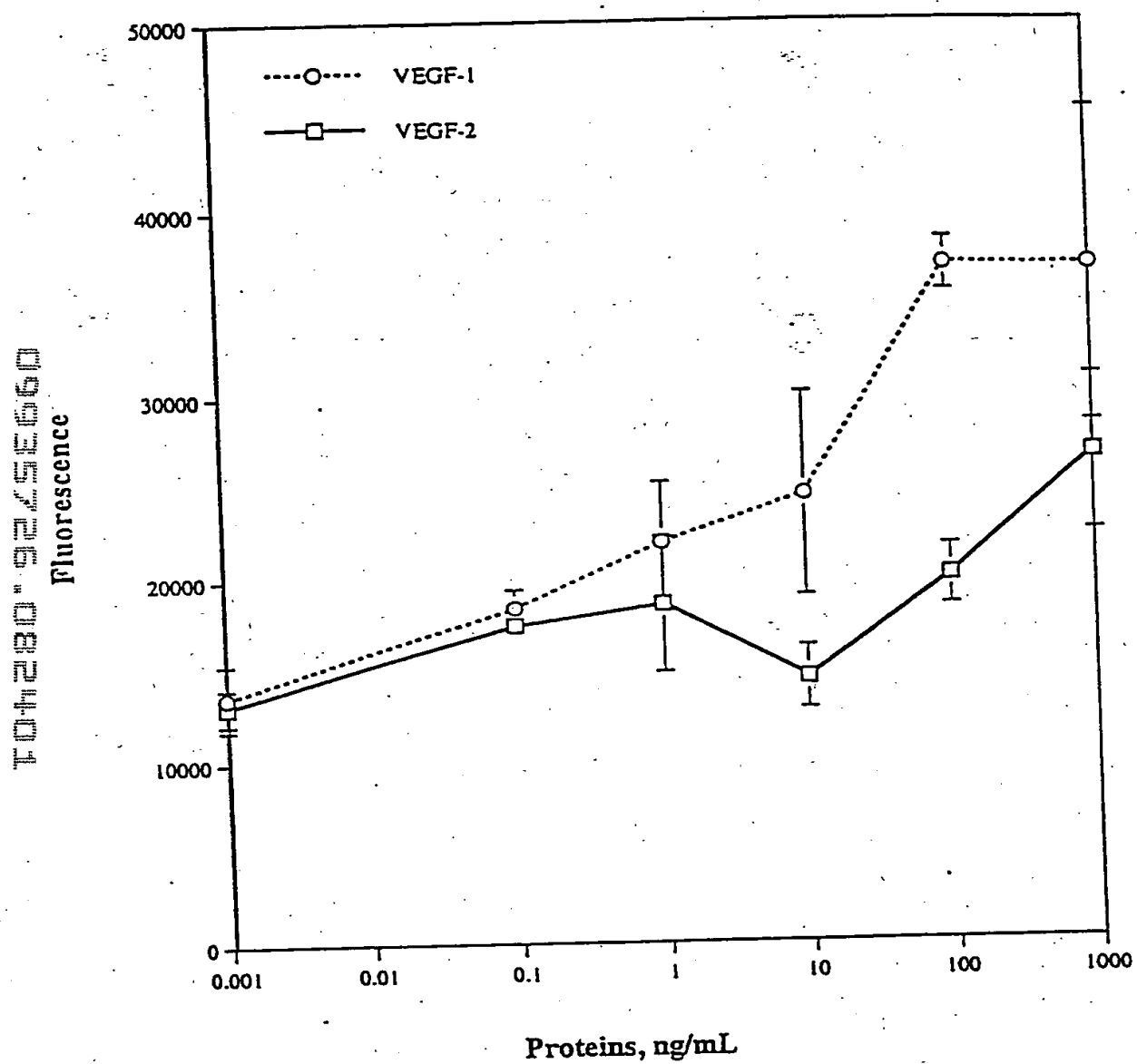


Figure 18

09935726.08440

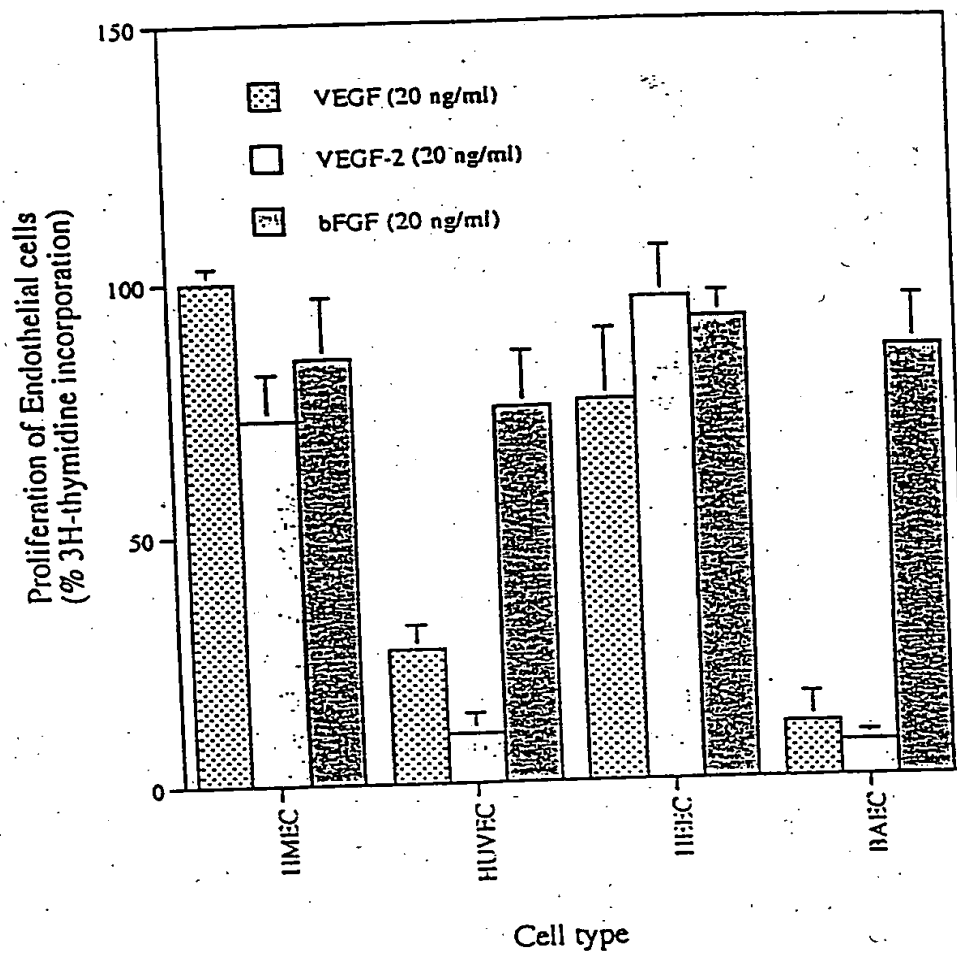
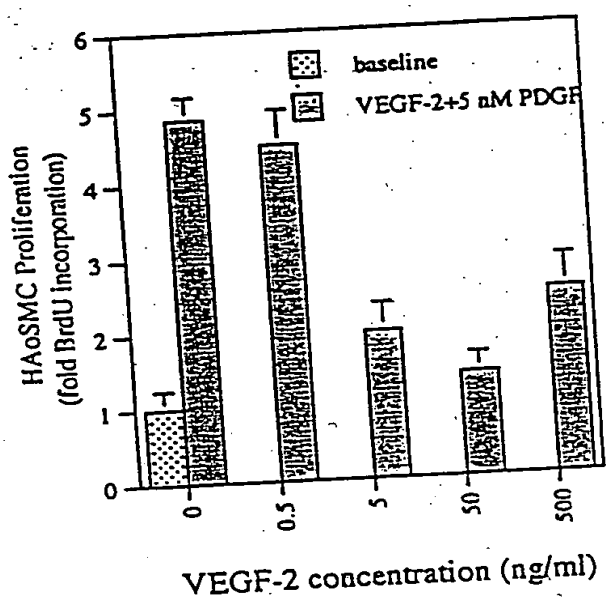


Figure 19

A.



B.

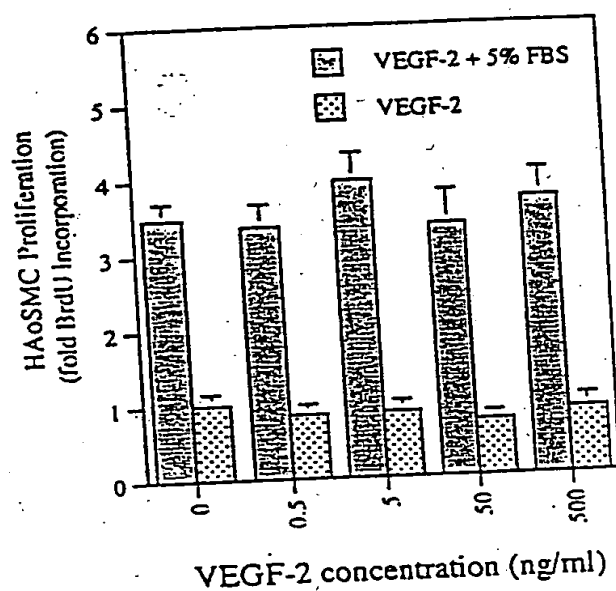
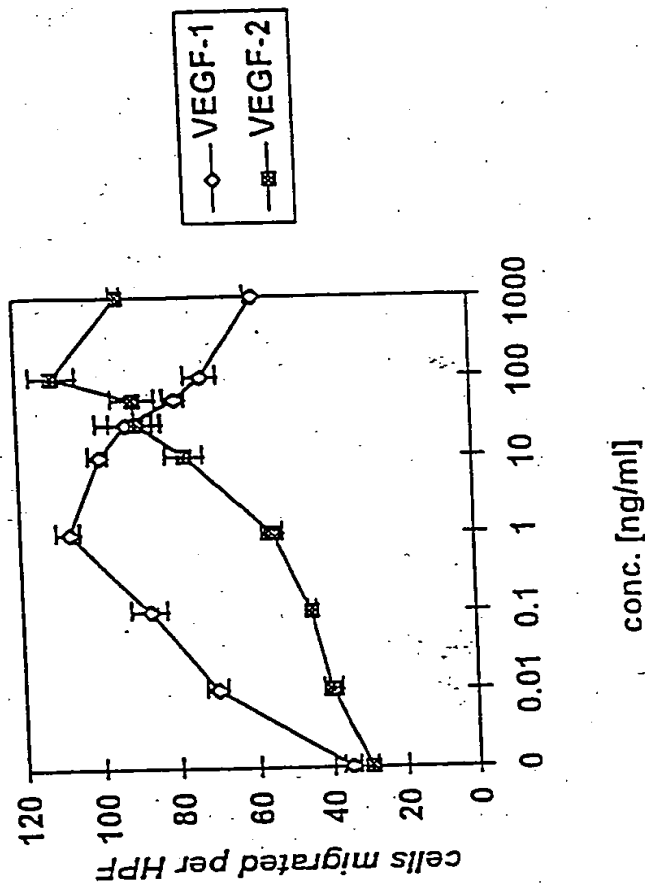


Figure 20

HUVEC Migration



BMEC Migration

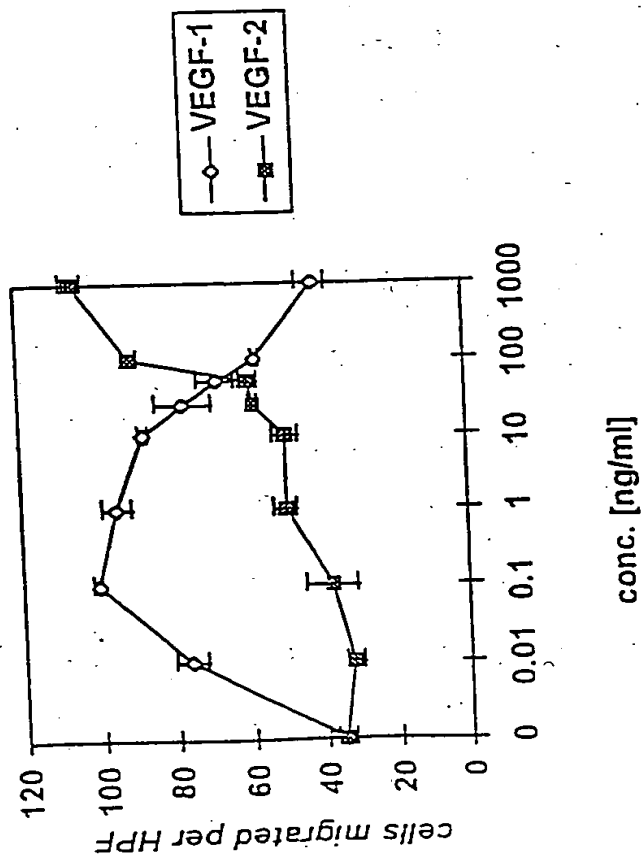


Figure 21

HUVEC - NO-Release

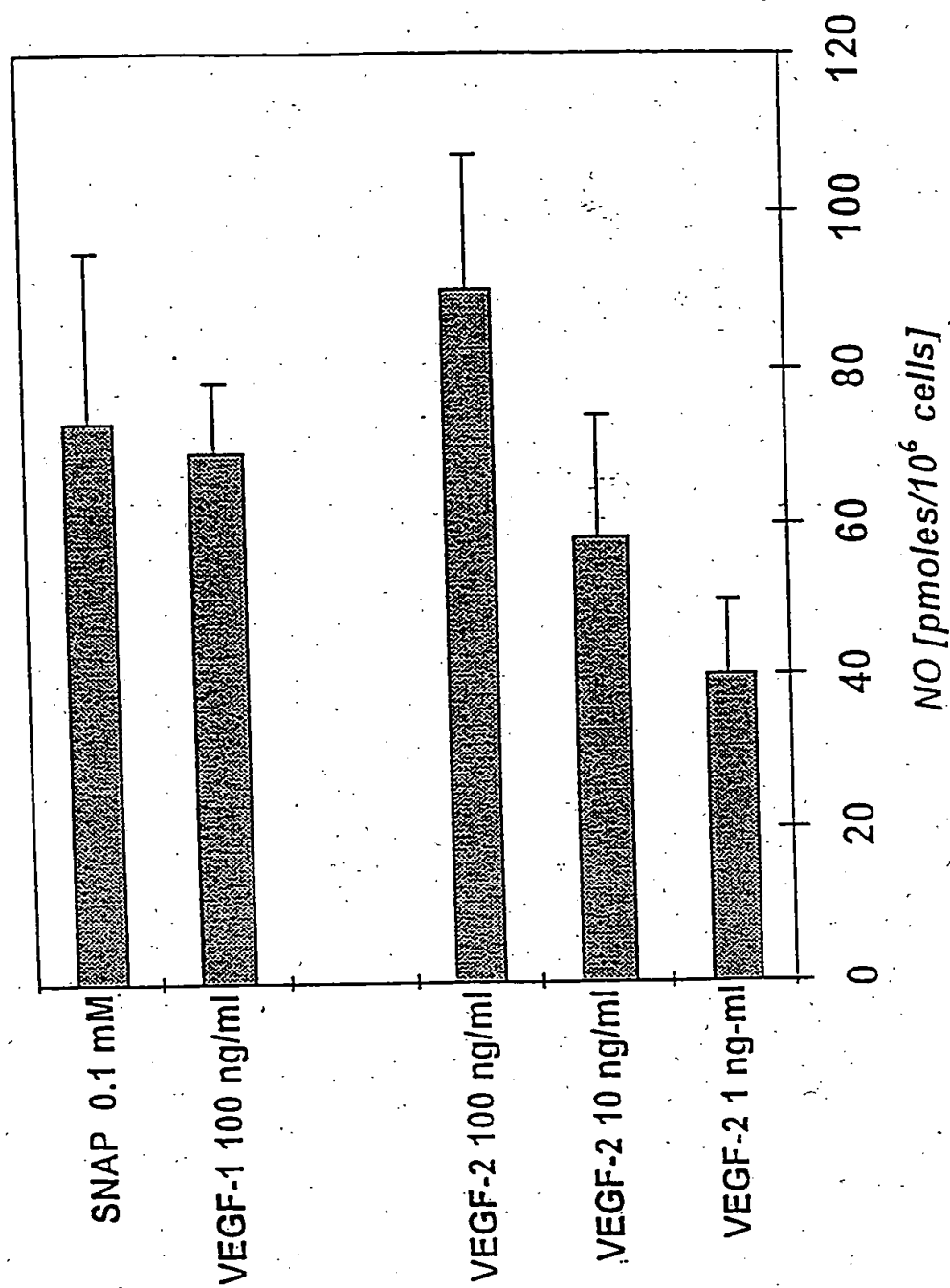


Figure 22

FOH280" 9245E660

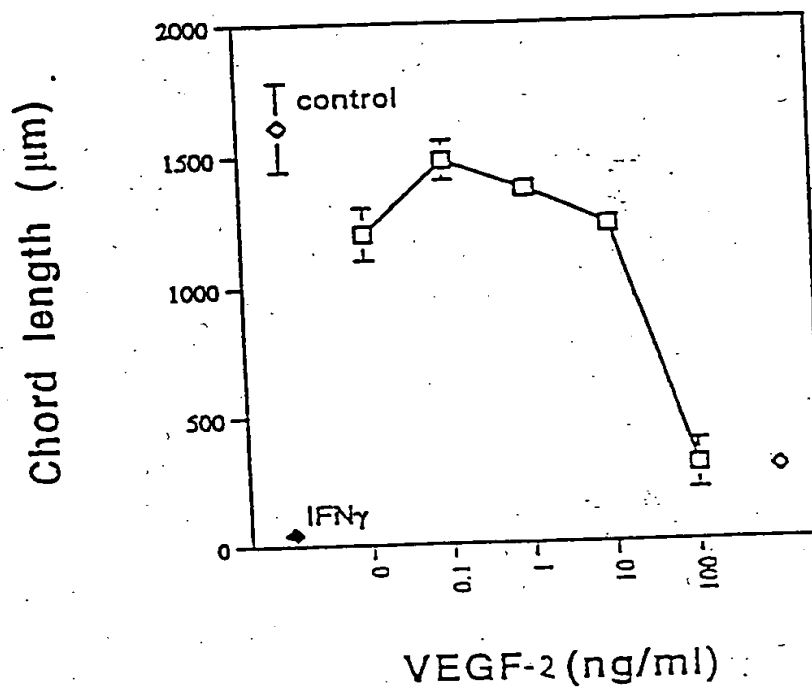


Figure 23

093576-0840
T04280-9245660

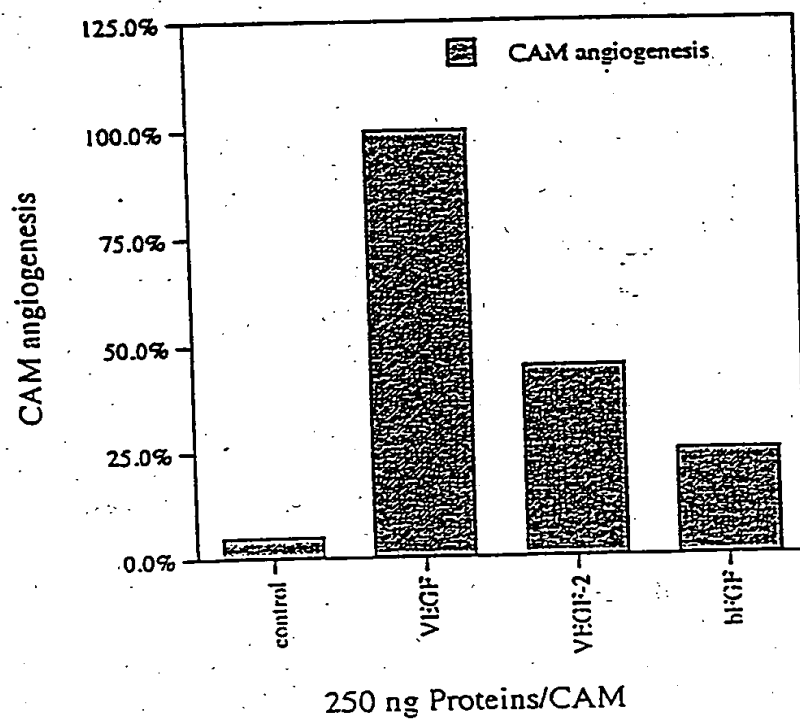


Figure 24

09935726-08407
T04280-9275E660

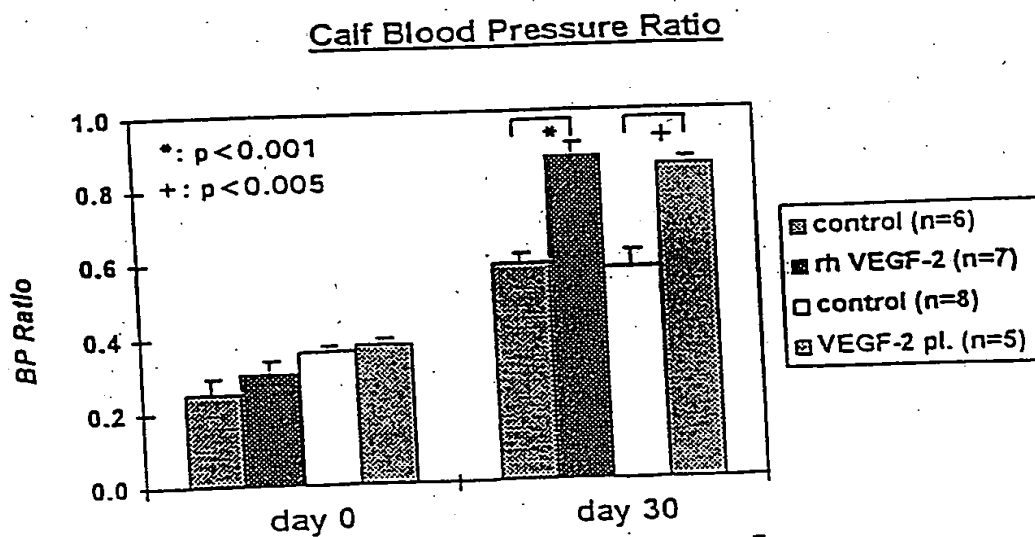
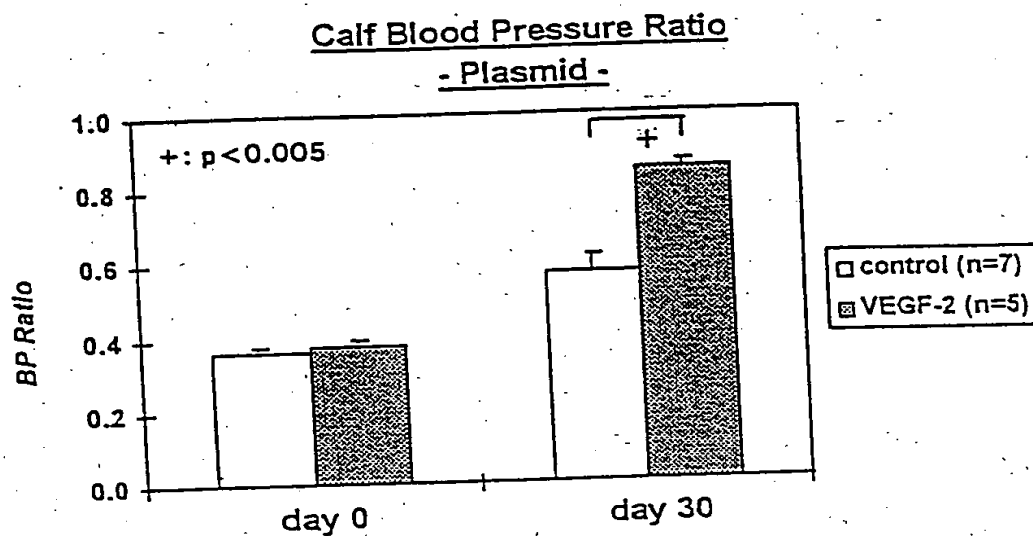
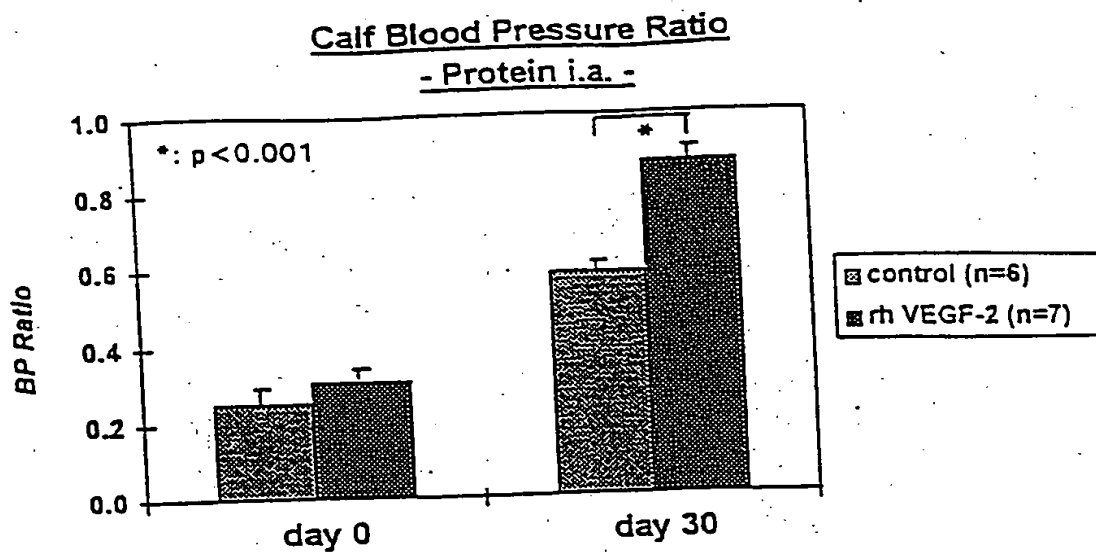


Figure 25A

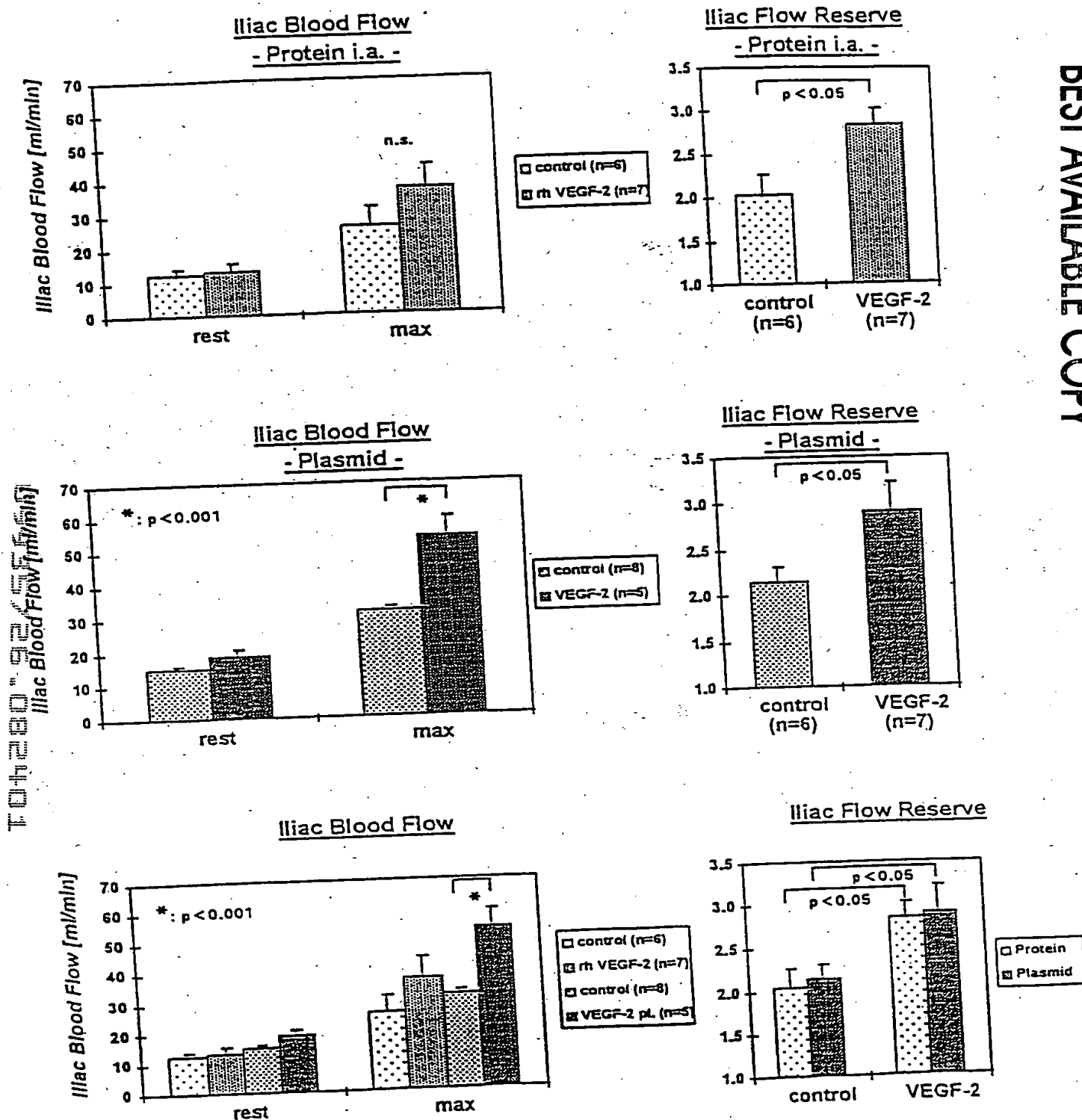
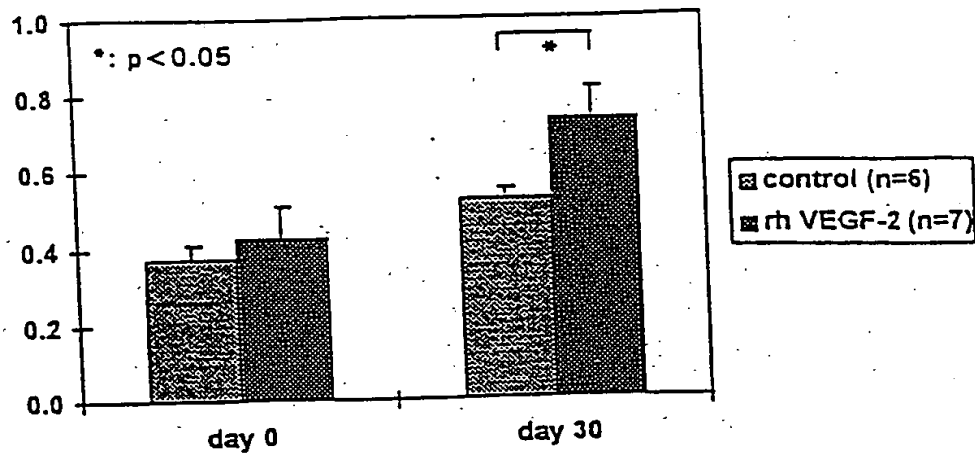


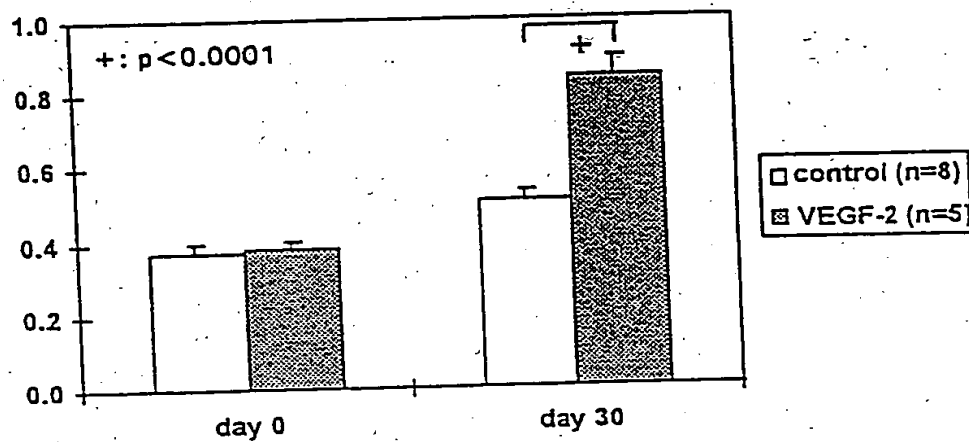
Figure 25B

09935726-082401

Angiographic Score
- Protein i.a. -



Angiographic Score
- Plasmid -



Angiographic Score

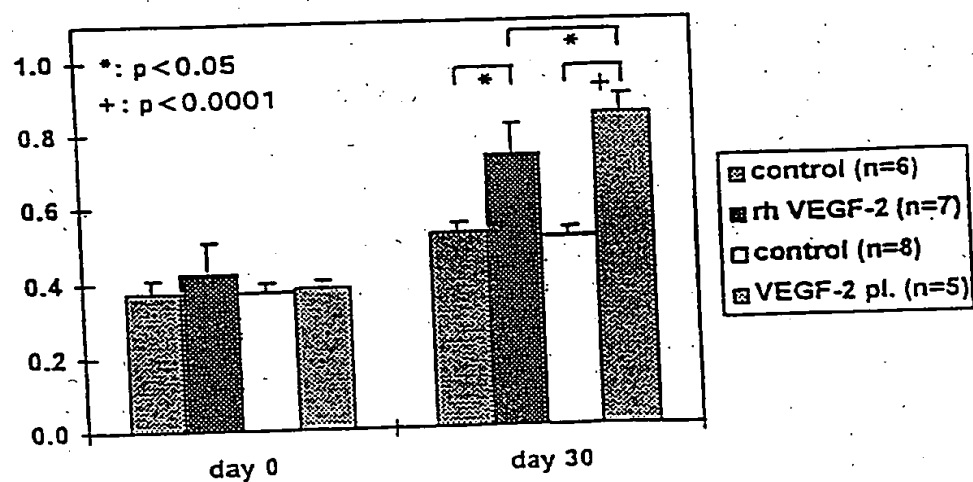


Figure 25C

0952725660

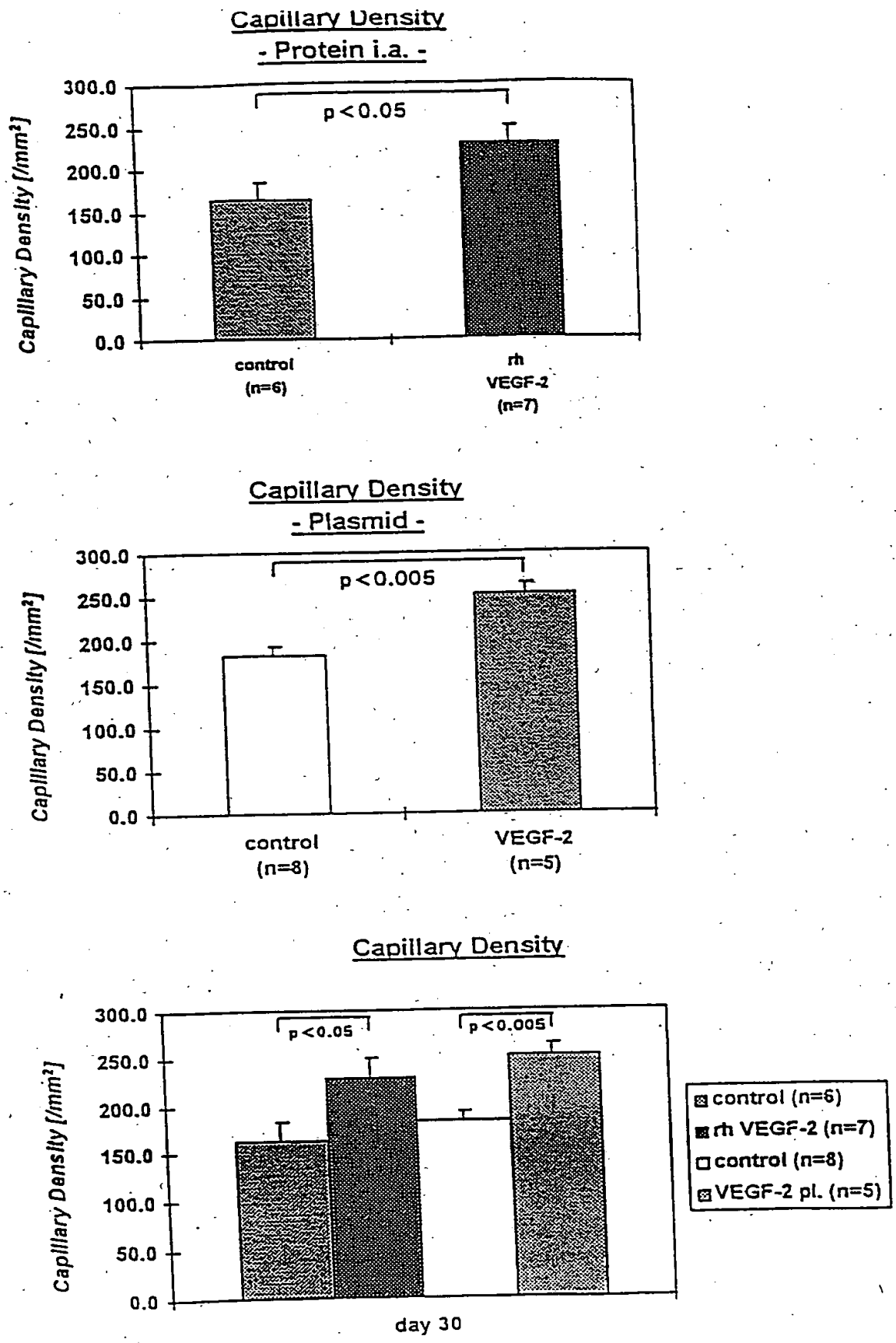


Figure 25D

FOI280" 9245660

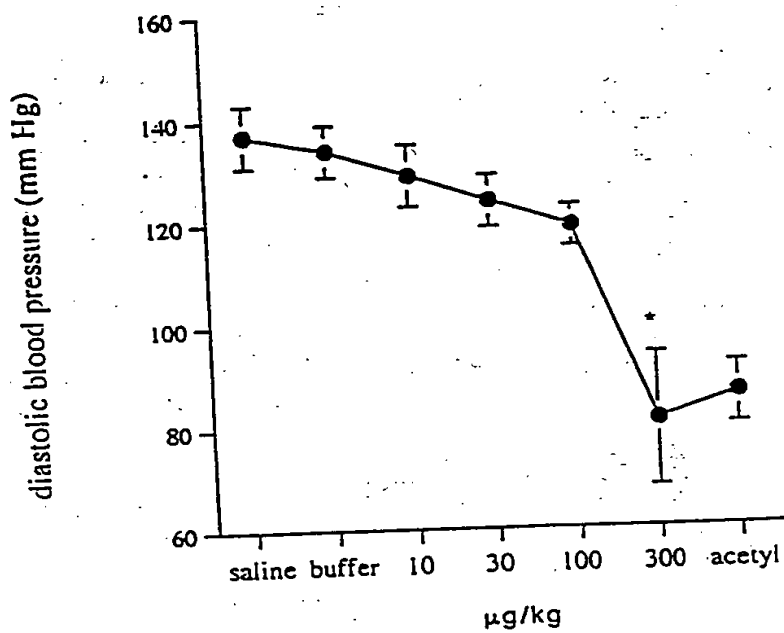


Figure 26A

0935726-08401

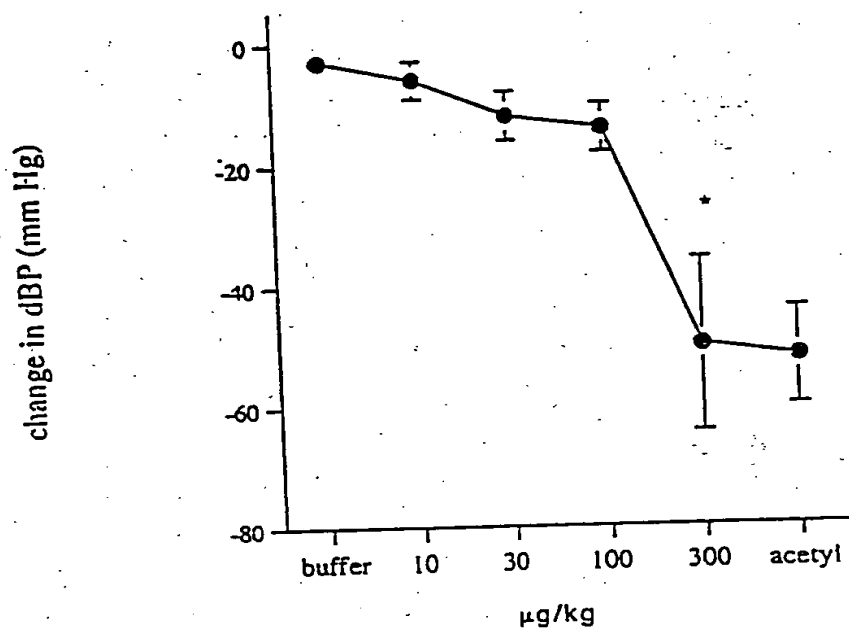


Figure 26B

104280" 9245E660

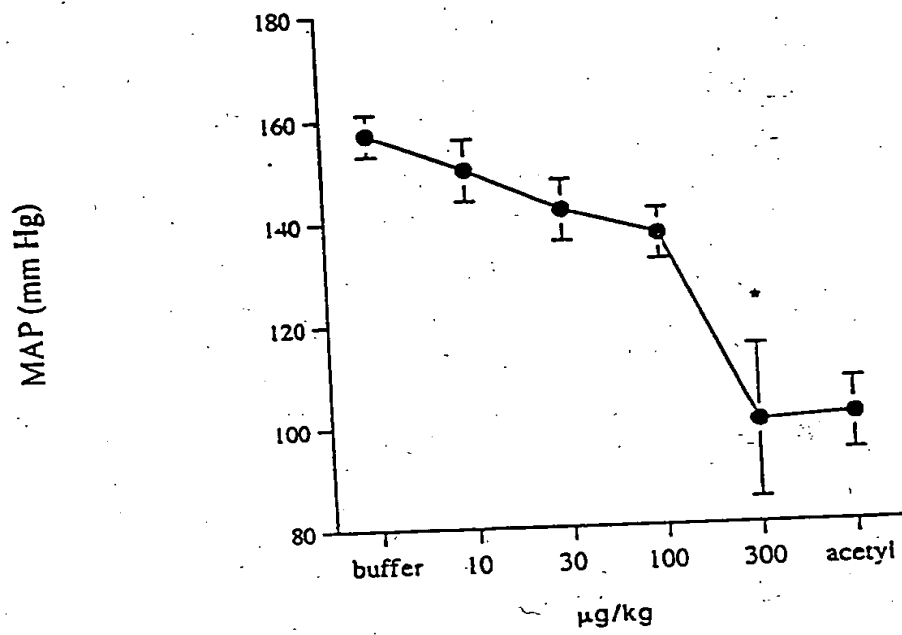


Figure 26C

TD4280" 9225E660

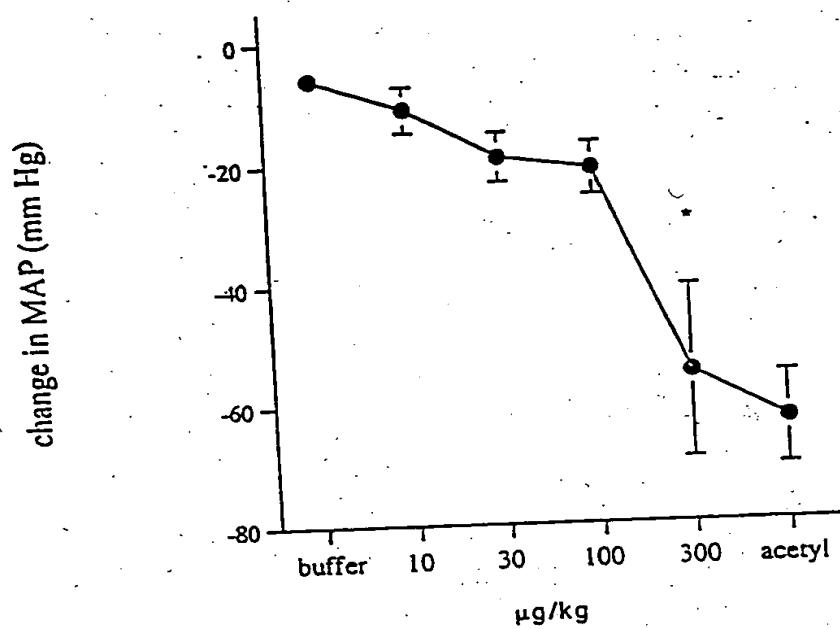
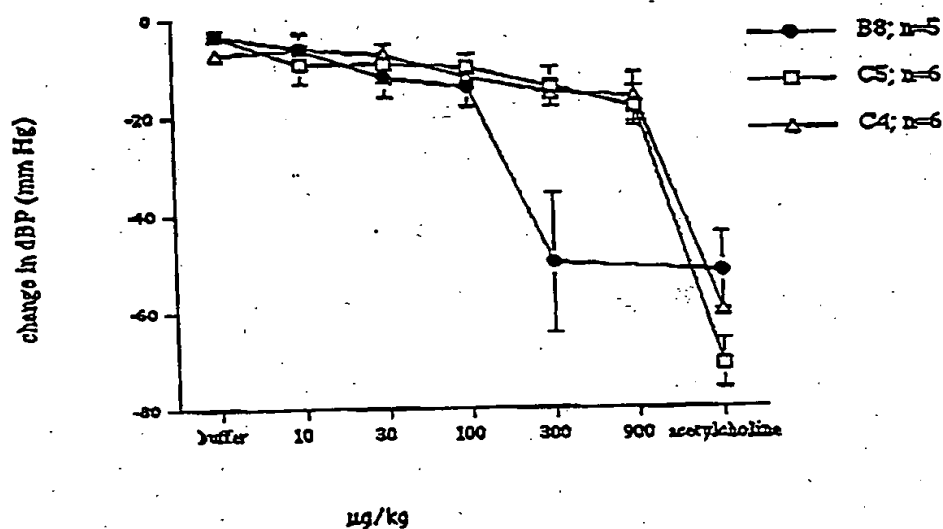


Figure 26D

0935726 0840
T04280 9275E660

Change in diastolic blood pressure of SHR rats given increasing doses of VEGF-2

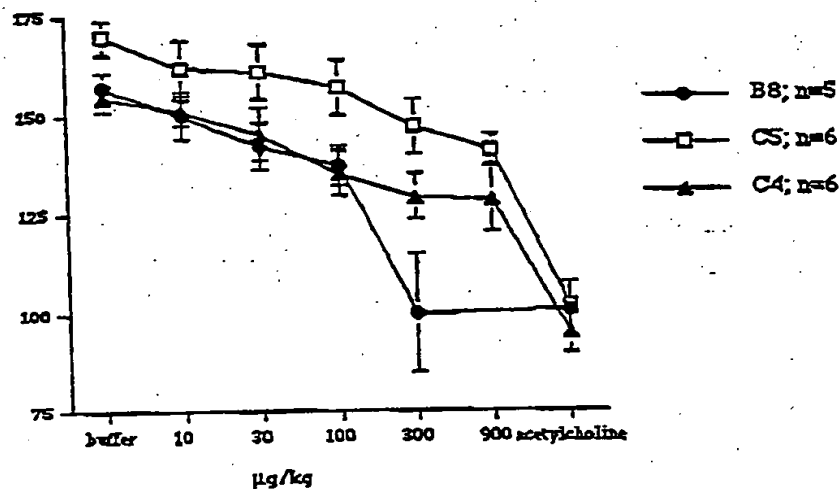


Increasing doses of VEGF-2 (HG00403-B8, HG00404-C5, and HG00404-C4) were administered to 13-14 week old SHR (spontaneously hypertensive rats) and the data are expressed as the mean \pm SEM. Statistical analysis was performed with a paired t-test and significance was defined as $p < 0.05$ vs. the response to buffer alone. The response to B8 and C4 were significant at the 300 μ g/kg dose. The response to C5 was significant at the 100, 300, and 900 μ g/kg doses.

The effect of increasing doses of VEGF-2 on the mean arterial pressure (MAP) of SHR rats

Figure 26E

The effect of increasing doses of VEGF-2 on the mean arterial pressure (MAP) of SHR rats

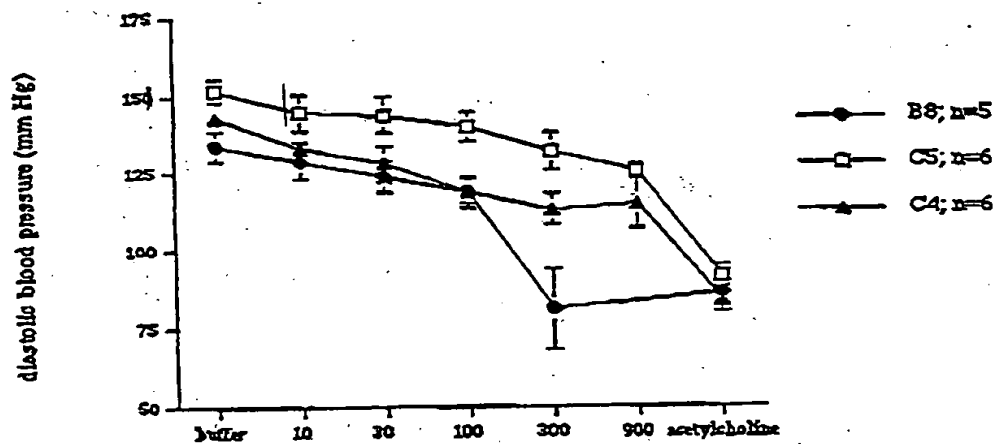


Increasing doses of VEGF-2 (HG00403-B8, HG00404-C5, and HG00404-C4) were administered to 13-14 week old SHR (spontaneously hypertensive rats) and the data are expressed as the mean \pm SEM. Statistical analysis was performed with a paired t-test and significance defined as $p < 0.05$ vs. the response to buffer alone. The response to B8 was significant at a 300 µg/kg dose. Administration of C5 yielded significant responses at doses greater than or equal to 100 µg/kg. The response to C4 was significant when 10, 100, 300, and 900 µg/kg were given.

The effect of VEGF-2 on the diastolic blood pressure of SHR rats

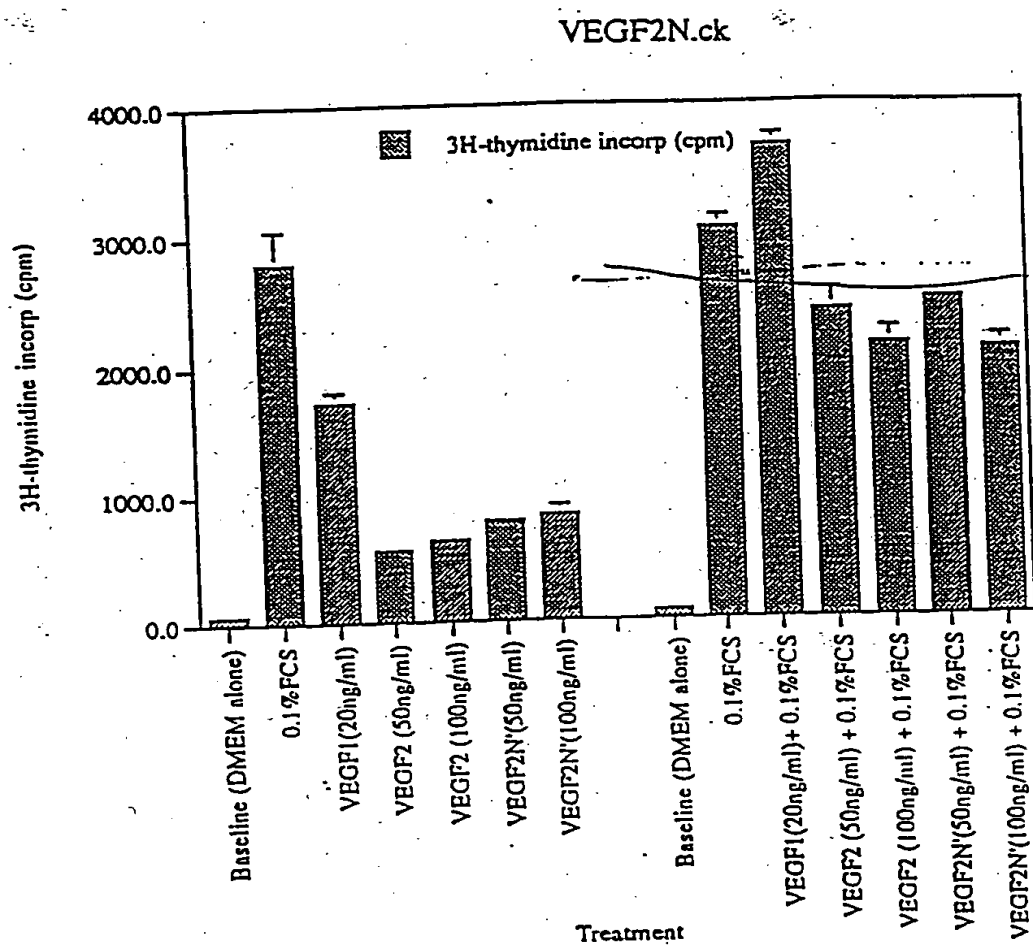
Figure 26F

The effect of VEGF-2 on the diastolic blood pressure of SHR rats



Increasing doses of VEGF-2 (HG00403-B8, HG00404-C5, HG00404-C4) were administered to 13-14 week old SHR (spontaneously hypertensive rats) and the data are expressed as the mean \pm SEM. Statistical analysis was performed with a paired t-test and statistical significance was defined as $p < 0.05$ vs. the response to buffer alone. The response to B8 was significant only at the 300 μ g/kg dose and when given acetylcholine. The responses to C4 and C5, while much less dramatic, were statistically significant at all dose levels.

Figure 26G

**Figure 27**

TOH280" 92/5E660

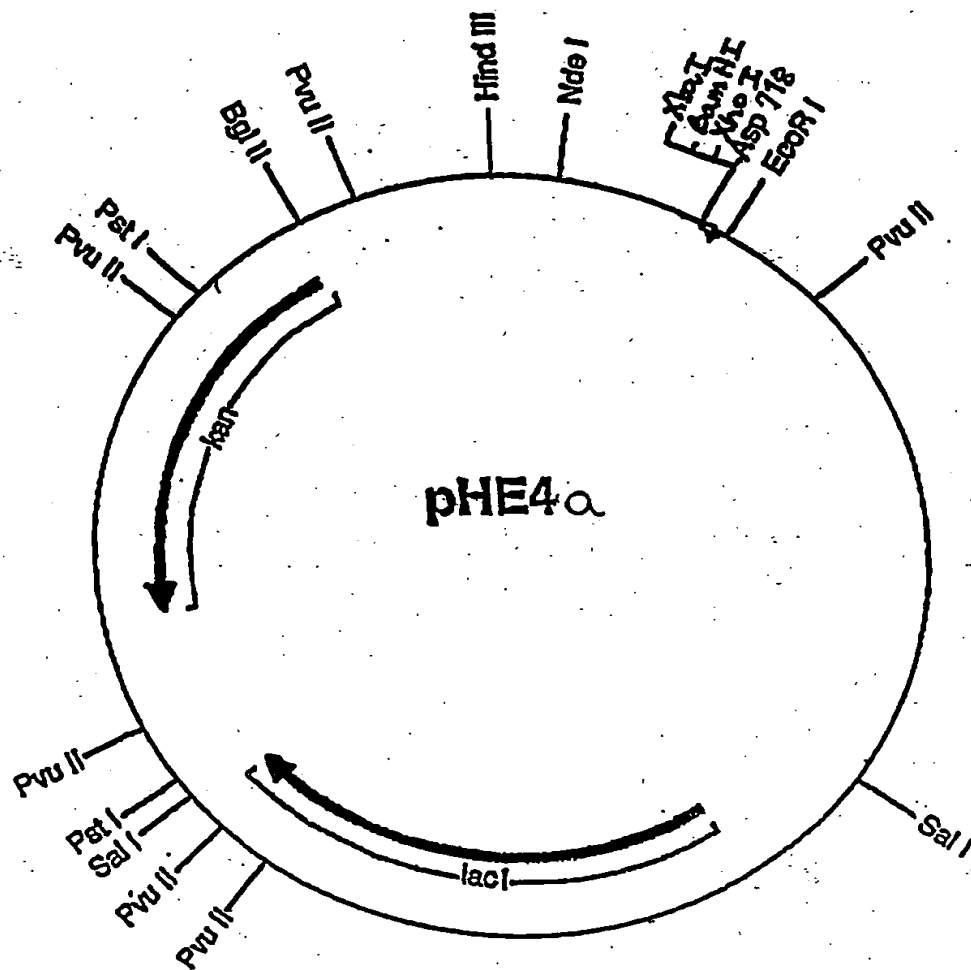


Figure 28

Figure 29

1 AAGCTT AAAA AACTGC AAAA TAGT **Operator 1**
 -35 TTGACT TCGTGGTGGTAAACGAAAT

50 **Operator 2**
 -10 TAAGATGTACCCACATTCGATGCGGAAATGAAATTTACACATTAA

S/D
 94 AGAGGAGAAATTA CATATG

BEST AVAILABLE COPY